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FEDERAL COMMUNICATIONS COMMISSION
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July 2, 1998

VIA HAND DELIVERY

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, DC 20554

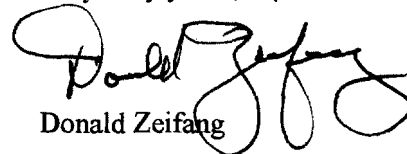
Re: ET Docket No. 98-42

Dear Ms. Salas:

On behalf of General Electric Company, we transmit herewith an original and nine copies of Comments in response to the Commission's Notice of Proposed Rulemaking in the above-referenced proceeding.

Should there be any questions, please contact the undersigned.

Very truly yours, .


Donald Zeifang

Enclosure

No. of Copies rec'd 089
LIST A B C D E

ORIGINAL

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of)
)
1998 Biennial Regulatory Review--) ET Docket No. 98-42
Amendment of Part 18 of the)
Commission's Rules to Update)
Regulations for RF Lighting Devices)

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COMMENTS OF GENERAL ELECTRIC COMPANY

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Dated: July 2, 1998

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of)
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1998 Biennial Regulatory Review--) ET Docket No. 98-42
Amendment of Part 18 of the)
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To: The Commission

COMMENTS OF GENERAL ELECTRIC COMPANY

1. General Electric Company ("GE"), through counsel, files the following comments in response to the Commission's Notice of Proposed Rule Making ("Notice") in the above-captioned proceeding. GE has a long history of developing new technologies related to all categories of lighting, and considers recent advances in RF lighting technology to be extremely important to consumers. As the Commission has stated in its Notice, the Commission's current rules may not easily accommodate the most recent developments in the field of RF lighting, thereby hindering the further development and implementation of new products.¹ GE supports the proposed rule changes outlined in the Notice, as those changes will allow for the increased commercialization of an important new energy saving technology while ensuring the full protection of authorized communication services. GE recommends a minor modification of the proposed

¹Notice at ¶ 1.

amendment to Section 18.307(c) of the Commission's Rules to permit harmonization of that rule with international standards.

Electrodeless Fluorescent Lamps

2. *Background.* The newer RF lighting technologies have, since the mid 1980's, brought significant energy saving opportunities to both consumer and non-consumer users. Although initially found in non-consumer markets due to the additional costs, RF lighting devices, in the form of compact fluorescent lamps ("CFLs"), have begun to penetrate the consumer market. The next generation of this technology has resulted in the development of electrodeless fluorescent lamps ("EFLs"). Although nearly identical in size and shape to existing CFLs, EFLs last longer and can be more readily fabricated in shapes that are more attractive to the consumer and will fit in more applications than the current generation of CFLs.

3. *Petition for Waiver.* On November 15, 1994, GE filed a Petition for Waiver of Section 18.307(c) of the Commission's Rules to relax the line-conducted emission limit for RF lighting consumer products to the non-consumer limit in the 2.2-2.8 MHz band so that GE could market its new EFLs.² GE explained in its Petition for Waiver that as consumer and non-consumer markets adopt EFLs, the United States will realize incremental energy savings from the use of these new lighting devices, as well as

²The GE Petition for Waiver is included in the record of this proceeding. See Notice at n.3.

reductions in environmental emissions that are associated with fossil fuel production of electricity.

4. GE also submitted a detailed technical analysis of the potential for interference caused by EFLs operating in the 2.2-2.8 MHz band. That analysis determined that any interference would be limited to certain communication devices operating in close proximity to the EFLs.³ Furthermore, only the field strength emissions from EFLs nearest to a communications device would potentially affect the device.⁴

5. The Commission granted GE's Petition for Waiver on October 23, 1995, permitting GE to manufacture and sell EFLs that met all radiated and conducted emission limits for consumer RF lighting devices except for the conducted emissions in the 2.2-2.8 MHz range.⁵ The Commission granted GE permission to meet instead the conducted limits associated with non-consumer RF lighting devices. This limited relaxation allowed the

³Field strength emissions decrease rapidly with distance, thereby eliminating the possibility of interference to devices not in close proximity to EFLs.

⁴In response to GE's Petition for Waiver, the National Telecommunications and Information Administration recommended that EFLs be restricted from use on Safety of Life at Sea ships and associated coast radio stations. GE agreed to this restriction since the EFLs were not intended for such applications and good practice requires a minimization of additional RF sources of any type in sensitive radio or communications environments.

⁵In response to subsequent requests by GE, the Commission has extended GE's waiver through October 23, 1998. On May 8, 1998, GE filed a request for an extension of the waiver for a period of one year until October 23, 1999, or until the completion of this rulemaking proceeding, whichever is later.

commercialization of EFLs on a limited basis. Since 1995, several hundred thousand units have been produced and sold both in the U.S. and Europe. No interference complaints have been reported to GE or to the Commission, confirming GE's technical analysis.

6. *Discussion.* Based on its experience during the waiver period, GE supports the Commission's proposal to relax the consumer line-conducted emission limit in Section 18.307(c). Amending the rule will serve the public interest by encouraging the development and sale of innovative, energy efficient lighting products with little, if any, risk of interference to typical consumer services in residential environments.

7. GE urges the Commission to further harmonize these requirements in Section 18.307(c) with the recently adopted conducted limits for RF lighting devices in CISPR 15 (IEC Special Committee on Interference). The international IEC/CISPR activity occurred after GE filed its Petition for Waiver and after the Commission's initial grant of the waiver. In light of these recent developments, the Commission can facilitate the global sale and commercialization of EFL technology by slightly modifying the proposed amendment to expand the band in which to relax the conducted limits to 3,000 microvolts from 2.2-2.8 MHz to 2.2-3.0 MHz. This minor change would allow substantial agreement with IEC/CISPR and would allow product designs to be equivalent globally with respect to conducted emission requirements.

8. In the alternative, GE urges the Commission to amend its proposal to specify the region 2.51-3.0 MHz for the relaxation of conducted limits to 3,000 microvolts. This change would conform exactly with global requirements. There is little likelihood of interference to typical consumer services in the 2.51-3.0 MHz range, and the practical designs associated with EFLs in this frequency range will be centered at the approximate mid point of the range, which is still within the range proposed in the current Notice.

9. As a last alternative, GE urges the Commission to adopt the amendment as proposed and relax the conducted limits to 3,000 microvolts in the 2.2-2.8 MHz band.

10. In its Notice, the Commission requests comment as to whether the advisory label for maritime use required under the current GE waiver is necessary.⁶ Consumers are best served when educated as to the possibility, even if remote, of potential interference, and the lighting industry has a long history of providing information on application restrictions either with the product or on product packaging. At the same time, however, the specific advisory label required by the GE waiver is overly wordy and unnecessarily burdensome.⁷ A shorter advisory label such as

⁶See Notice at ¶ 7.

⁷The current warning label states:

This product may cause interference to radio equipment operating in the frequency range of 2.2-2.8 MHz. Avoid placing this product near these devices. To reduce the possibility of radio interference to maritime safety

"Not for maritime/shipboard use. Not recommended for use near 2.5-3.0 MHz radio receivers." would provide consumers with sufficient information. Furthermore, manufacturers should be allowed to use equivalent wording, rather than exact phrases specified by the Commission. The Commission should also permit manufacturers the option of placing the advisory on the package or inside the package with any other documentation.

11. As a final matter, the Commission also requests comment regarding potential transient emission effects.⁸ As EFLs start and turn off very quickly--typically in milliseconds--transient effects should not be included in the amended requirements for RF lighting devices. Any transient phenomenon that would be noticed in a nearby receiver would not be objectionable, since the phenomenon would not be sustained and would happen infrequently.

Microwave Lighting

12. *Discussion.* Although GE does not currently manufacture or sell high power RF lamps that operate in the 2400-2500 MHz

communications, this device should not be installed: (1) on board cargo vessels of more than 300 gross tons, (2) on board vessels carrying more than 12 passengers for hire, and (3) at any medium frequency public coast station. Further, installation is not recommended on board vessels equipped with medium frequency single side-band marine radios. If interference occurs, move this product away from the device or plug either into a different outlet. Such interference should be reported to [an individual named by GE to receive the complaints].

⁸See Notice at ¶ 7.

band, this higher power technology should be allowed to develop without overly burdensome requirements. Accordingly, GE supports the Commission's proposal to update the RF lighting rules by adopting an initial relaxation of 10 dB as proposed in the Notice.⁹ Such relaxation should be adequate to allow additional commercialization of this technology, which will further demonstrate that the revised levels result in no significant interference. While microwave lighting will not be as prevalent as EFLs, the higher power levels associated with microwave lighting makes the Commission's proposed amendment a reasonable and balanced next step that is responsive to the industry while also remaining protective of authorized communications. GE also supports the Commission's proposal to add radiated emission limits above 1 GHz for RF lighting devices, since these proposed limits are identical to the limits already in place for Part 15 digital devices.¹⁰

13. Finally, GE does not believe there is any evidence to warrant the addition of in-band radiated limits for microwave lighting devices that operate within the ISM allocated frequency bands.¹¹ Although RF lighting devices in the ISM bands may indeed become more plentiful, there are many more devices already in existence, over a range of power levels, that operate in the 2450 MHz ISM band that do not have limits on in-band radiated

⁹See Notice at ¶ 11.

¹⁰See Notice at ¶ 12.

¹¹See Notice at ¶ 13.

emissions. RF lighting should not be penalized to the exclusion of other similar technologies. If it becomes evident that such devices cause interference, the Commission can add requirements at a later date.

Conclusion

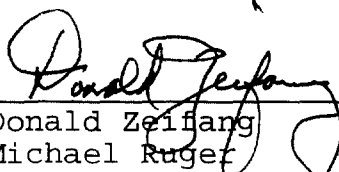
14. Accordingly, for the reasons stated above, GE supports the Commission's proposals in the Notice. GE suggests, however, that the Commission extend the relaxation of the conducted emission limit in the region 2.51-3.0 MHz to 3,000 microvolts in order to harmonize the Commission's standard with that adopted by CISPR.

Respectfully submitted,



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